2005 ANNUAL INDEX

This instant reference of technical subjects, news and special features from Volume 46 of *Sea Technology* magazine provides information about feature articles, covers, soapboxes, editorials and authors. This listing will also appear on the *Sea Technology* website in the near future. Check it out at www.sea-technology.com

JANUARY

Cover—The sun sets over Hamilton Island, one of the 74 tropical islands in the Coral Sea, between the Queensland coast and the Great Barrier Reef off Australia. (Photo courtesy of Craig and Michele Linder.)

Editorial—RECOGNIZING COMMUNITY LEADERS AND PIONEERS—Martin J. Finerty Jr.

Soapbox—SPAWNING A BLUE MOVEMENT—David Helvarg

EDITORIAL CONTENTS

OCEAN ISSUES REACHING HIGH TIDE
VAdm. Conrad C. Lautenbacher Jr., Under Secretary of Commerce for Oceans and Atmosphere and Administrator, National Oceanic and Atmospheric Administration

NAVAL OCEANOGRAPHY PROGRAM: CHARACTERIZING THE SEA BASE ENVIRONMENT
RAdm. Steven J. Tomaszeski, Oceanographer and Navigator of the Navy, United States Navy

SCIENTIFIC OCEAN DRILLING: NEW OPPORTUNITIES AND FINDINGS
Kasey White, Director of Public Affairs, Joint Oceanographic Institutions

A NEW BEGINNING FOR OCEAN POLICY AND LEGISLATION
Richard D. West, President and Chief Executive Officer, Consortium for Oceanographic Research and Education

COASTAL AND MARINE HAZARDS: PEOPLE, INFRASTRUCTURE AND ECOSYSTEMS AT RISK
Dr. Charles G. Groat, Director, United States Geological Survey

NSF PLANS INFRASTRUCTURE REVITALIZATION FOR BASIC OCEAN RESEARCH
H. Lawrence Clark, Acting Division Director, Division of Ocean Sciences, National Science Foundation

NAVY RDA PREPARING FORCES FOR THE FUTURE
John J. Young Jr., Assistant Secretary of the Navy, United States Navy

MINERALS MANAGEMENT SERVICE 2005 UPDATE
Johnnie Burton, Director, Minerals Management Service

CLIMATE VARIABILITY AND PREDICTABILITY: THE OCEAN CONNECTION
David M. Legler, Director, United States CLIVAR Office

SEA GRANT AND THE U.S COMMISSION ON OCEAN POLICY
Dr. Ronald C. Baird, Director, and Amy Painter, Communications Specialist, National Sea Grant College Program, National Oceanic and Atmospheric Administration

PROTECTING OUR COASTAL WATERS IN THE 21ST CENTURY
Benjamin Grumbles, Acting Assistant Administrator, Office of Water, Environmental Protection Agency

RECENT CLIVAR OCEAN ACTIVITIES
Dr. Howard Cattle, Director, International CLIVAR Project Office

CHARACTERISTICS OF THE U.S. INTEGRATED OCEAN OBSERVING SYSTEM
Stephen R. Piotrowicz, Oceanographer, Ocean.US

THE SHIP IS COMING IN FOR OCEAN LEGISLATION IN THE 109TH CONGRESS
Congressman Curt Weldon (R-Pennsylvania), Congressman Jim Greenwood (R-Pennsylvania), Congressman Tom Allen (D-Maine) and Congressman Sam Farr (D-California), Co-Chairs of the House Oceans Caucus, United States House of Representatives

IMPROVED PORT SECURITY TECHNOLOGY: VITAL FOR SAFE AND SECURE WATERWAYS
Congressman Frank A. LoBiondo (R-New Jersey), Chairman of the Subcommittee on Coast Guard and Maritime Transportation, United States House of Representatives

ONR: SCIENCE AND TECHNOLOGY FOR THE FLEET, TODAY AND TOMORROW
RAdm. Jay M. Cohen, Chief of Naval Research, United States Navy

RESPONSIBLE RESOURCE MANAGEMENT: REFORMS FOCUS ON LONG-TERM SOLUTIONS
Senator Mike Crapo (R-Idaho), Chairman of the Senate Environment and Public Works Sub-committee on Fisheries, Wildlife and Water, United States Senate

OCEANS, CLIMATE TO BE KEY PRIORITIES IN 109TH CONGRESS
Congressman Sherwood Boehlert (R-New York), Chairman of the Committee on Science, United States House of Representatives

DECISION TIME FOR AMERICA'S NAVY AND SUPPORTING MANUFACTURING INDUSTRY
Cynthia L Brown, President, American Shipbuilding Association

DEVELOPING U.S. OCEAN POLICY IN THE 109TH CONGRESS
Congressman Wayne T. Gilchrest (R-Maryland), Chairman of the Subcommittee on Fisheries, Conservation, Wildlife and Oceans, United States House of Representatives

OIL INDUSTRY ANTICIPATES INCREASES IN EXPLORATION, PRODUCTION ACTIVITY IN 2005
Susanne Pagano, Houston, Texas

TIME IS RIGHT TO PASS NOAA LEGISLATION
Congressman Vernon J. Ehlers (R-Michigan), Chairman of the Subcommittee on Environment, Technology and Standards, United States House of Representatives

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Rick Martin, Publisher, *Commercial Fisheries News* and *Fish Farming News*

FIRING LINE REPORT: OPTIMISM FOR 2005
Travis Talent, Assistant Editor (*Sea Technology* Magazine)

BIODIVERSITY SURVEY TECHNIQUES: ROBIO AND DOBIO LANDERS
Dr. Alan J. Jamieson and Dr. Philip M. Bagley (University of Aberdeen) examine providing the subsea oil and gas industry with environmental and biological monitoring in areas of anthropogenic activity.

MARITIME MISSIONS IN THE 21ST CENTURY
Adm. Walter F. Doran (United States Navy)

APPLICATIONS OF MOTOR-POWERED PARAGLIDERS
Dr. Shikida Asami (Kanazawa Institute of Technology) discusses a useful and handy alternative monitoring tool for coastal environments.

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Cover—This photo was taken by Woody Pfitsch (McLane Research Laboratories Inc.) aboard the R/V *Mirai* (operated by the Japan Marine Science and Technology Center) during recovery of the K-2

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mooring in the northwest Pacific Ocean. The samplers shown in the photo, manufactured by McLane Research Laboratories, are (top to bottom) the time series sampler incubation device, phytoplankton sampler and remote access sampler.

Editorial—FROM HYDROGEN TO INTEGRATED OCEAN MAPPING—Andy Armstrong

Soapbox—DATA MANAGEMENT A TOP PRIORITY?—Dr. Dawn Wright

EDITORIAL CONTENTS

IMPROVED BIOLUMINESCENCE MEASUREMENT INSTRUMENT

Dr. Edith Widder, Lee Frey (Harbor Branch Oceanographic Institution) and Jennifer Bowers (U.S. Naval Oceanographic Office) discuss a new high-intake defined excitation bathyphotometer developed for the U.S. Navy.

TELEMETRY AND OCEAN OBSERVING BUOY SYSTEM

Jeffrey A. Kinder and William V. Sweet (North Carolina State University) describe a new buoy system to support storm surge predictions for Charleston County, South Carolina.

TELEFOS: A NEW DESIGN FOR COASTAL DRIFTERS

Vassilis Zervakis (University of the Aegean), Michael Ktistakis (MARAC Electronics SA) and Dimitris Georgopoulos (Hellenic Centre for Marine Research) focus on exploiting the expansion of cellular telephony in measuring coastal currents and dispersion.

OCEANS/TECHNO-OCEAN 2004 IN FULL BLOOM

—Conference Report

MARINE ENVIRONMENTAL SENSORS IN HYDROGRAPHIC SURVEYS

Pat Sanders and Jessie Sanders (HYPACK Inc.) examine integrating HYPACK MAX hydrographic surveying software with the YSI Sonde 6600 environmental sensor.

SELF-CLEANING SENSORS FOR LONG-TERM MOORINGS

Fabian Wolk (Rockland Oceanographic Services) and Hua Li (Alec Electronics Co. Ltd.) focus on wiper technology effectiveness in tests in Japan's coastal waters.

UNITED STATES HYDROGRAPHIC CONFERENCE 2005

—Conference Preview

WAVESENSE MARKS 20 YEARS FOR WAVESCAN DIRECTIONAL BUOY

Stephen F. Barstow, Svein Erik Aasen and Jan-Petter Mathisen (Fugro Oceanor) discuss how field trials of the new WaveSense sensor show agreement with standard reference sensors.

YUNUS UNDERWATER ACOUSTIC DATA ACQUISITION SYSTEM

Ruhi Saatclar, Semih Ergintav (TUBITAK Marmara Research Center) and Hakan Basaran (Turkish Naval Acoustic Research Group) provide a look at a new system for vertical and horizontal directional underwater acoustic measurements.

GLOBAL DYNAMIC ANALYSIS OF PORT AND INSTALLATION PROTECTION NETS

Dr. Dave Thomas (Orcina Ltd.) discusses how software tools show the way for design and analysis of this class of structure.

MARCH

Cover—*Tyco Reliance*, one of six *Reliance*-class ships in Tyco Telecommunications' marine fleet, underway in the Atlantic Ocean. The *Reliance* is ported in Baltimore, Maryland, one of six special-purpose ships and eight total in Tyco's fleet. (Photo provided courtesy of Tyco Telecommunications, all rights reserved.)

Editorial—AMERICA'S OCEAN FUTURE DEMANDS ACCESSION TO THE LAW OF THE SEA TREATY—George Newton

Soapbox—AMERICA'S PORTS: A DECADE OF FEDERAL UNDER-INVESTMENT—Kurt J. Nagle

EDITORIAL CONTENTS

MINE BURIAL BY SCOUR IN SHALLOW SEAS: PREDICTION AND EXPERIMENTS

Paul A. Elmore, Michael D. Richardson (Stennis Space Center) and Carl T. Friedrichs (Virginia Institute of Marine Sciences) focus on how a model for predicting scour shows promise toward forecasting mine burial in sandy bottoms.

APPLYING TECHNOLOGY SOLUTIONS TO CHALLENGES OF COASTAL SECURITY

William C. Marra (Tyco Telecommunications) takes a look at how existing technologies can, and should, be used to make the coastline more secure.

DREDGING CREATES A STRONG ECONOMY, CLEANER ENVIRONMENT

Lawrence M. Patella (Western Dredging Association) examines how marine environment, maintained through dredging in a healthy and sustainable condition, is essential to support life.

SUBMARINES AND THEIR COMBAT SYSTEMS

Capt. Ray Wellborn (Applied Technology Institute) provides information on the new steel-shark at sea—USS *Virginia*.

DVS: NEW TECHNOLOGY FOR THE DATA RECORDING PROCESS

Aleksey Popov, Pavel Antipov and Denis Sajine (Sea Soft Packages & Technologies Ltd.) discuss the development and application of software technology for research operations in the underwater engineering industry.

SOUTHERN GULF OF MAINE: MAN AND NATURE SURVIVING TOGETHER

Alan D. Wilson (Freelance Writer) examines how Wells NERR sets an example for marine research, monitoring and use of technology at a regional research facility.

APRIL

Cover—The 60,000-ton Thunder Horse semi-submersible as it prepares to set sail for the U.S. Gulf of Mexico.

Editorial—OCEAN INDUSTRY'S CHALLENGE AND REWARD: TOSSING OUR CAP OVER THE IOOS WALL—Andrew Clark

Soapbox—MARINE RENEWABLE ENERGY: A SOLUTION TO CLIMATE CHANGE—Dr. Stephanie Merry

EDITORIAL CONTENTS

DEEP FRONTIERS: TECHNOLOGY FOR OCEAN EXPLORATION

Justin E. Manley (Mitretek Systems) and Lt. Jeremy B. Weirich (NOAA) examine new technologies and opportunities for science, industry and government.

OIL DISPERSION BY BREAKING WAVES AND CURRENTS

Dr. Vladimir Maderich and Igor Brovchenko (Ukranian Center for Environmental and Water Projects) discuss the modeling of the transport of spilled oil in the wind and wave-driven sea.

OTC EXPANDS 2005 PROGRAM

—Conference Preview

FROM ALASKA TO THE SOUTH PACIFIC IN ONE HOP

Rick Cole (RDSea and Associates Inc.), Lt.Jg. Noah Reddell (United States Navy) and Dr. Umran Inan (Stanford University) focus on how Stanford University, radioscience and ocean engineering merge in the southern Pacific Ocean to study electromagnetic waves.

TECHNOLOGY AT FOREFRONT IN SEARCH FOR DEEPWATER OIL, GAS RESERVES

Susanne Pagano (Freelance Writer) examines the Thunder Horse and other new deepwater rigs among projects in this year's spotlight.

A MODULAR DOCKING SYSTEM FOR 12.75-INCH CLASS AUVS

Robert Coulson, Joe Lambiotte and Dr. Edgar An (Florida Atlantic University) discuss a funnel-type dock using inductive power transfer and a radio frequency Ethernet bridge.

A COTS APPROACH TO WATER-SIDE PORT SECURITY

R. F. Murphy (International Submarine Engineering Ltd.) examines unmanned underwater vehicles for port security operations and enhancement.

Cover—R/V *Roger Revelle* on its centennial expedition commemorating the 100th anniversary of Scripps Institution of Oceanography. *Revelle* has served the needs of more than 1,900 scientists from 265 institutions since launching in 1995. The NSF HiSeasNet c-band antenna atop the superstructure now connects the vessel to the Internet. (Shipboard photo by Ilya Zaslavsky, San Diego Supercomputer Center, University of California, San Diego, offshore La Jolla, California.)

Editorial—OBSERVING THE OCEAN ENVIRONMENT ONE BYTE AT A TIME—H. Lawrence Clark

Soapbox—EMBRACING THE DATA CHALLENGE—Steve Bohlen

EDITORIAL CONTENTS

SWAP: SHIP-TO-SHIP/SHORE-TO-SHORE WIRELESS ACCESS PROTOCOL

Val Schmidt (Lamont-Doherty Earth Observatory), Toby Martin (Oregon State University) and Geoff Davis (Scripps Institution of Oceanography) examine a mesh network implementation in the U.S. oceanographic research fleet.

CRITICAL ASPECTS OF MANNED VEHICLE COMMUNICATION SYSTEMS

Jerry M. Peck (Ocean Technology Systems) discusses how to plan the communication system early during vehicle design for successful results.

FUTURE AUTONOMOUS MINE RECONNAISSANCE SYSTEMS

John Morrison and Chris Emblen (QinetiQ) examine the development and demonstration of advanced payload technologies on the Gambit mine reconnaissance AUV.

FISCAL YEAR 2006 BUDGET OF THE UNITED STATES GOVERNMENT

Sea Technology editorial staff outline the fiscal year 2006 budget for DOD, Navy, DHS, MARAD, USACE, NOAA, NSF, MMS, USGS, NASA and EPA.

IMPROVING SUBMARINE COMMUNICATIONS AUTOMATION

Michael Brawner (General Dynamics Electric Boat) and Stephen Kurak (EDO Corp.) discuss how to provide integrated control, HMI standardizations and automation to the end user.

NATIONAL OCEAN INDUSTRIES ASSOCIATION ANNUAL MEETING

—Conference Report

THE USE OF TURBO-CODING IN UNDERWATER TELEMETRY SYSTEMS

Dr. D. R. Sweet (Defence Science and Technology Organisation, government of Australia) talks about how a modern coding technique shows promise in improving data rates in spread-spectrum underwater telemetry systems.

COMMUNICATIONS OPTIONS FOR UNDERWATER SCIENTIFIC NETWORKS

Frederick Sonnichsen, Andrew Maffei (Woods Hole Oceanographic Institution) and Kenichi Asakawa (Japan Science and Technology Center) focus on Internet protocol over wave division multiplexing for sub-sea scientific networks.

JUNE

Cover—Footprint of an oil rig temporarily stationed in Halifax Harbor, Nova Scotia, Canada. Data were acquired by the Triton Isis® using the Benthos C3DT at a 150-meter range scale. Data were processed by TritonBathyProT and Triton MosaicRT and displayed in Triton DelphMapT.

Editorial—MARITIME SCIENCE—THE HEIR APPARENT TO A GENERATION'S IMAGINATION—Paul Hornsby

Soapbox—STATUS OF THE U.S. ACADEMIC FLEET—Dave Hebert

EDITORIAL CONTENTS

IMPROVING MULTIBEAM BOTTOM COVERAGE
Ken Kiesel (L-3 Communications/Klein Associates) compares techniques for pitch/yaw compensation in deep-water multibeam swath echo-sounders.

HiSeasNet: PROVIDING INTERNET TO THE UNOLS FLEET
Jonathan Berger, John Orcutt and Frank Vernon (Scripps Institution of Oceanography) discuss a model for real-time Internet data collection from the ORION platforms.

SEABED PROFILING WITH AMBIENT NOISE
Marcus Donnelly (Systems Engineering & Assessment Ltd.) examines using the background ambient noise of the ocean to measure the acoustic reflectivity of the seabed.

A NEW AUTONOMOUS SEMI-SUBMERSIBLE SURVEY PLATFORM
Hugh W. Young and Stephen J. Phillips (Autonomous Surface Vehicles Ltd.) focus on stable wave-piercing vehicle technology, development and applications.

HYDRO-ACOUSTIC SURVEY SCHEME FOR SEA-BOTTOM ECOLOGY MAPPING
Tomohiro Kamoshita, Yoshibumi Sato (OYO Corp.) and Dr. Teruhisa Komatsu (Ocean Research Institute) discuss integration and synergy of side scan sonar and multibeam sonar.

PHASE ONE SUB-MARINE CABLE INSTALLATION IN THE PERSIAN GULF
Mohammad Khalaj Amir Hosseini, Mohammad Banae and Mohammad Taghi Ramezani (Iran Marine Industrial Co.) talk about the installation located between the production platform and satellite wellhead platform in the South Pars gas field.

GAPS: THE GLOBAL UNDERWATER AND MARINE POSITIONING SYSTEM
Dr. Fabien Napolitano, Dominique Roger and Pierre-Yves Morvan (iXSea) focus on the latest sea trial results of PHINS heading, attitude and positioning data accuracy in case of GPS outage, without external aiding.

NATIONAL SCIENCE FOUNDATION'S OCEAN OBSERVATORY INITIATIVE
Alexandra R. Isern (National Science Foundation) talks about providing the ocean research community with an interactive observing system to investigate ocean processes.

THE DEVELOPMENT OF A HANDY OIL SKIMMER
Masayuki Fudo (Japan's Ministry of Land Infrastructure and Transport) looks at development based on past experiences with oil spill incidents for the protection of the sea from oil pollution.

JULY

Cover—Recent winch provided to Williamson Associates for geotechnical work in 2,500 meters of water using 7/16-inch-diameter Plasma softline from Puget Sound Ropes. The photo was taken during sea trials in Seattle, Washington, before shipment and mobilization. Design and construction of the winch was a joint venture between Markey Machinery Co. and Griffin Associates.

Editorial—NAVIGATING THE FUTURE: DIGITAL NAVIGATION AND THE NAVY—RAdm. Steven J. Tomaszeski

Soapbox—LOOKING AROUND THE CORNER OR IS IT TIME TO PLAN AHEAD?—Richard Meyer

EDITORIAL CONTENTS

FUTURE OF THE U.S. COAST GUARD POLAR ICE BREAKING FLEET
Cdr. Thomas Wojahn, Dr. Jonathan Berkson and Lt. Jeffrey Rasnake (U.S. Coast Guard) discuss aging polar icebreakers and how extreme Antarctic ice conditions set in motion a review of U.S. polar ice-breaking requirements.

UPWELLING TESTS ON FLIP USED TO DEVELOP ENERGY TECHNOLOGY
Warren Finley (Wader LLC) and Dr. Anthony T. Jones (oceanUS Consulting) examine how Wader uses FLIP to improve innovative salinity gradient applications.

SUBMARINE CABLE INFRASTRUCTURE DEFENSE AGAINST TERRORISTS
Robert Bannon (Bannon International Consulting LLC) and Douglas Burnett (Holland & Knight LLP) focus on how protecting the undersea cable network makes the world's international security and global economy function.

SUPER CONDUCTOR MOTORS FOR HIGH-SPEED SHIP PROPULSION
Bruce Gamble (American Superconductor) discusses how innovation in high-speed ship propulsion technology drives smaller, lighter, less costly and more efficient motors.

PARAMETRIC SUB-BOTTOM PROFILER FOR AUVS
Sean R. Griffin, Stephen C. Kuhn (Omni Technologies Inc.) and Kim Benjamin (Naval Undersea Warfare Center) talk about deep-penetration, high-spatial-resolution sub-bottom imagery in a compact, low-power form factor.

WHOI EXPLORES THE DEEP WITH PUGET SOUND ROPE AND HONEYWELL
Barbara McGrath Costain (Honeywell Performance Products), Randy S. Longerich (Puget Sound Rope) and James Broda (Woods Hole Oceanographic Institution) describe the project for WHOI to complete the largest deep-water coring system in the United States with help from Puget Sound and Honeywell Spectra Fiber.

CURRENT-TO-CURRENT CONVERTER FOR SCIENTIFIC CABLE NETWORKS
Dr. Kenichi Asakawa (JAMSTEC), Junichi Kojima (KDDI Inc.) and Jun Muramatsu (NEC Corp.) focus on the key device to realizing a robust and reliable constant current power feeding system.

WAVE ENERGY CAPACITY AND PART-LOAD OPERATION
Asfaw Beyene (San Diego State University) and Dr. James H. Wilson (Planning Systems Inc.) look at the improvement of part-load performance for useful wave energy recovery.

EVOLVING METHOD TO MEASURE SEAFLOOR PLATE TECTONIC MOTIONS
Katie Gagnon, Dr. David Chadwell and Dr. Fred N. Spiess (Scripps Institution of Oceanography) describe how a combination of GPS and underwater acoustics allow repeated centimeter-level determination of seafloor reference points.

AUGUST

Cover—The *Omer 5* human-powered submersible being deployed at the Eighth International Submarine Races at the Naval Surface Warfare Center's Carderock Division in Bethesda, Maryland. The *Omer 5*, from the University of Quebec's Ecole de Technologie Superieure in Montreal, Canada, set a new two-person speed record of 7.061 knots at the event. (Photo courtesy of Mariby Johns.)

Editorial—ADAPTIVE MANAGEMENT AND COASTAL OCEAN OBSERVING SYSTEMS—Dr. Victor Klemas

Soapbox—IT'S ONE OCEAN AFTER ALL—Barry Stamey

EDITORIAL CONTENTS

A SHIFT FROM RIGHTS TO RESPONSIBILITIES IN THE EEZ
RAdm. Neil Guy (Consultant) raises the question as to whether coastal states should re-evaluate their commitment to the 1982 United Nations Convention on the Law of the Sea.

WORKING TOWARD AN INDIAN OCEAN TSUNAMI WARNING SYSTEM
Dr. Frank Johnson (RBR Ltd.) discusses the feasibility of a high-resolution system with shore-based detection.

HIGH-ALTITUDE AIRSHIPS FOR HOMELAND SECURITY OPERATIONS
Stephen T. Makrinos (CACI Technologies Inc.) focuses on providing persistent surveillance for warfighters and first responders.

OCEANS 2005 MTS/IEEE CONFERENCE AND EXHIBITION
—Conference Preview

LOW-FREQUENCY DIPPING SONAR ON A RIGID-HULLED INFLATABLE BOAT
George Wallace and Dr. Joseph E. Whalen (L3 Communications Ocean Systems) describe a new sonar-based surveillance system for use in shallow-water littorals.

EIGHTH INTERNATIONAL SUBMARINE RACES
Travis Talent (Assistant Editor) reports on how science, technology and fun were combined at this year's underwater competition.

USING TECHNOLOGY TO BRIDGE MARITIME SECURITY GAPS
Dale Ferrier (National Infrastructure Institute), Khrystyna Pysareva and Andrzej Rucinski (University of New Hampshire) look at identifying marine transportation vulnerabilities and countermeasures.

SEPTEMBER

Cover—Meteorological and oceanographic data of the Straits of Malacca and the South China Sea produced using CARIS MetOcean software. Among the basemap data is a National Aeronautics and Space Administration Landsat TM7 multi-resolution seamless image database and a Royal Malaysian Navy S-57 electronic navigational chart. The meteorological overlay includes ocean temperature and ocean current information.

Editorial—ONE WORLD, INTERCONNECTED—VAdm. Conrad C. Lautenbacher Jr.

Soapbox—RELIABLE SEA-BOTTOM POSITION—Cyril Galvin

EDITORIAL CONTENTS

POPEIE: PROBE FOR OIL POLLUTION EVIDENCE IN THE ENVIRONMENT
Chris Chase (InterOcean Systems Inc.) and Lt. Richard Sanders II (U.S. Coast Guard) focus on how the U.S. Coast Guard has enlisted POPEIE, a new tool designed to combat illegal discharge of oil at sea.

THE NEW JERSEY SHELF OBSERVING SYSTEM
Dr. Oscar Schofield, Josh Kohut and Dr. Scott Glenn (Rutgers University) examine using an ocean observatory to track plumes, particulates and people in the coastal ocean.

DATA SYSTEMS FOR OCEAN OBSERVATION PROGRAMS
John Graybeal, Dr. James G. Bellingham and Dr. Francisco P. Chavez (Monterey Bay Aquarium Research Institute) discuss how development of flexible, intuitive and powerful data systems is a major challenge facing the oceanographic community.

IMPLICATIONS OF AN ASIAN DUST STORM ON

THE GULF OF ALASKA
Sabrina M. Crispo (University of British Columbia), Dr. Tawnya D. Peterson (University of California, Santa Cruz) and Dr. Maeve C. Lohan (University of Plymouth) describe the far-reaching effects of dust storms on the trace metal supply and the biological consequences for the Gulf of Alaska.
PUTTING METEOROLOGICAL AND OCEANOGRAPHIC DATA TO WORK
Chantale Caron (CARIS) explores Internet-based geospatial technology for new applications for the Royal Malaysian Navy.
NOAA FISHERIES SERVICE SURVEY SENSOR PACKAGE
Dr. Bruce Magnell, Minh Chau Vu (Woods Hole Group Inc.) and Victor Nordahl Jr. (NOAA Fisheries Service) describe a data acquisition and telemetry system for shellfish dredge surveys.
NEW DEVELOPMENTS INCREASE USE OF AIRBORNE LIDAR BATHYMETRY
Alastair MacDonald (TMS International Ltd.) details how increasing functionality is opening up applications in the LIDAR bathymetry market.

OCTOBER

Cover—*Geco Topaz*, one of the WesternGeco fleet of seismic acquisition vehicles, during a seismic exploration survey in the North Sea. The *Geco Topaz* is capable of towing up to 10 seismic recording streamers, 6.5 kilometers in length, each separated by 100 meters. This leads to an acquisition footprint of approximately six square miles.
Editorial—DEVELOPMENTS IN MARINE SEISMIC TECHNOLOGY—Craig Beasley
Soapbox—THERE IS NO OIL SHORTAGE—Richard Shamp
EDITORIAL CONTENTS
UNRAVELING THE STRUCTURE AND COMPOSITION OF THE OCEANIC CRUST
Dr. Richard L. Carlson and Dr. D. Jay Miller (Texas A&M University) discuss the exploration of the crust by scientific methods.
ACOUSTIC DIGITAL SPREAD SPECTRUM: AN ENABLING TECHNOLOGY
Ross Stuart (Nautronix) examines how to use new acoustic spread spectrum technology to enhance current subsea positioning and communication capabilities.
SHORE BYPASS CABLE LANDING AT SAN NICOLAS ISLAND, CALIFORNIA
S. Brian Cable (Naval Facilities Engineering Service Center), Stanley Black and Michael R. Harrison (Sound & Sea Technology) explore how the U.S. Navy has employed two submarine telecom cables between Point Mugu and San Nicolas Island in California.
MULTI-DISCIPLINARY, SUB-SEABED GEOPHYSICAL IMAGING
Tim A. Minshull, Martin C. Sinha (National Oceanography Centre) and Dr. Christine Peirce (University of Durham) focus on a new pool of 28 seafloor instruments in use by the United Kingdom Ocean Bottom Instrument Consortium.
NUMERICAL ANALYSIS OF SETTLEMENT OF STRUCTURES ON SOFT GROUND
Dr. Taka-aki Mizutani and Dr. Yoshiaki Kikuchi (Port and Airport Research Institute) look at an effort to increase options in the design of the foundations of coastal structures.
GAS HYDRATES—THE COMMERCIAL FUEL SOURCE OF THE 21ST CENTURY
William D. Siapno (WDS Associates) and Mac Sisson (Virginia Institute of Marine Science) describe gas hydrates as a path to energy prosperity and Western economic dependence.
EUROPEAN SEAFLOOR OBSERVATORY NETWORK
Imants G. Priede (University of Aberdeen), Roland Person (IFREMER Centre) and Paolo Favali (Istituto Nazionale de Geofisica e Vulcanologia) examine the European installation of the first of a chain of cabled observatories that will extend from the Arctic Ocean to the Black Sea.
AUTONOMOUS 4D UNDERWATER ENVIRONMENTAL SAMPLING
Dale Green (Benthos Inc.) discusses the development of wireless, modem-based underwater observatories and local area networks.

NOVEMBER

Cover—USS *Albuquerque* (SSN 706) departing Crete in March 2005.
Editorial—UNMANNED SYSTEMS ARE THE KEY TO CHANGING THE FACE OF WARFARE—RAdm. William E. Landay III
Soapbox—WHY A SUBMARINE?—Capt. James H. Patton Jr.
EDITORIAL CONTENTS
REMORA: A NEW CONCEPT FOR AUVS IN MINE WARFARE
Frédéric Dabe (Groupe d'Etudes Sous-Marine de l'Atlantique) examines how heterogeneous groups of AUVs can reduce human interaction.
TACTICAL READINESS EVALUATION DEBRIEF SYSTEM
Wilfred M. Canto Jr. (Naval Sea Systems Command) explores software development for the automation of antisubmarine warfare analysis and readiness assessments.
MARINE MAMMALS AND ACTIVE SONAR
James A. Theriault (Defence Research and Development Canada—Atlantic) reviews the potential for negative impact from the use of active sonar and emerging mitigation techniques for animals in the ocean.
EXPLORING SYSTEM CAPABILITY IN A VIRTUAL SUBMARINE
Sam Huf and Andrew Tynan (Australia Defence Science and Technology Organisation) look at a project supporting submarine combat system evolution.
REAL-TIME TARGET DETECTION USING ACOUSTIC SENSORS ON AUVS
Te-Chih Liu and Dr. Henrik Schmidt (Massachusetts Institute of Technology) develop and demonstrate an autonomous and feasible way to hunt for buried targets.
HEATING SYSTEMS FOR DIVERS USING HYDROGEN CATALYTIC REACTIONS
Dr. M. L. Nuckols (Duke University), T. W. Adams and C. G. Holmes (Naval Surface Warfare Center) examine an alternative to free-flooding hot water suits using the fuel of the future.

DECEMBER

Cover—Avi Klapfer, underwater photographer, diving with his biomarine closed circuit rebreather, taking a picture of Undersea Hunter's (Miami, Florida) newly acquired three-person Triumph submersible. The vehicle, built by SEAmagine Hydrospace Corp. (Claremont, California), prepares for its descent to 1,500 feet off the coast of Coco's Island in Costa Rica. (Photo by Ofer Ketter.)
Editorial—UNDERSEA DEFENSE: OUT OF SIGHT, OUT OF MIND?—RAdm. J. Richard Seesholtz
Soapbox—SALVAGE RESPONSE: JUST IN TIME, BUT NOW IS THE TIME TO ACT—George Wittich
EDITORIAL CONTENTS
ROBUST CONTROL OF A PLATOON OF UNDERWATER AUTONOMOUS VEHICLES
Akira Okamoto, Dr. Dean B. Edwards and Dr. Michael J. Anderson (University of Idaho) discuss using large numbers of vehicles to acquire high-resolution data over wide areas in a reasonable time period.
MIR SUBMERSIBLES PROVIDE DIRECT VIDEO LINK TO OCEAN AND LAND
Anatoly Sagalevitch (P. P. Shirshov Institute of Oceanology) reports on how a live television broadcast opened direct access for large groups of scientists to the deep ocean.
UNDERWATER INTERVENTION INTERNATIONAL CONFERENCE 2006
—Conference Preview
NAVAL COMMUNITY PURSUES NEW AUTONOMOUS SURFACE VEHICLE
George Lammons (Naval Meteorology and Oceanography Command) describes the many advantages of the surface vehicle without the cost of underwater vehicles.
AN ARRAY OF SENSORS FOR THE SEABED MONITORING OF GEOHAZARDS
Jérôme Blandin and Jean-François Rolin (Institut Français de Recherche pour l'Exploitation de la Mer) present a versatile solution for the long-term real-time monitoring of distributed seabed parameters.
HYPACK HYDROGRAPHIC TRAINING CONFERENCE 2006
—Conference Preview
HYDROID INC: MAKING STRIDES IN AUTONOMOUS TECHNOLOGY
—Company Profile
OCEANS 2005 MTS/IEEE—ONE OCEAN
—Conference Report
WATER DAMS SCANNED BY SIDE SCAN SONAR
Dr. Gwo-Shyh Song (National Taiwan University) discusses how, by simply rotating a towed fish, scientists can easily capture difficult to attain underwater images.
***SEA TECHNOLOGY* ANNUAL INDEX FOR 2005**

AUTHOR INDEX 2005